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ABSTRACT

From fall 1990 to fall 1994, Florida's Miami-Dade Community College (M-DCC) experienced a decline in enrollment among first-time-in-college students. To determine reasons for the decline, M-DCC examined characteristics and high school of origin of first-time students in the period, categorizing students as direct-entry (i.e., entering within 1 year after high school) and delayed-entry (entering more than 1 year after high school). The analysis revealed a decline in first-time students of 1,283, or 14%, over the period, with direct-entry students declining by 622 and delayed-entry by 661. Moreover, enrollment among students from non-Dade County high schools accounted for 69.8% of the total loss. Based on these data and reviews of external circumstances, the enrollment loss was found to be associated with the following 3 events: (1) an increase in tuition and fees between fall 1990 and fall 1991; (2) the combined effects of the tuition and fee increases and Hurricane Andrew between fall 1991 and fall 1993; and (3) a policy change by Florida International University to lower admission standards, resulting in another loss between fall 1993 and fall 1994. Finally, while tuition and fee increases resulted in a decrease in enrollment and credits for all categories of first-time students, total revenues from tuition and fees increased over the period for Florida residents but decreased for out-of-state and out-of-country residents. (TGI)

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ANALYSIS OF THE ENROLLMENT LOSS AMONG FIRST-TIME-IN-COLLEGE STUDENTS ATTENDING MIAMI-DADE COMMUNITY COLLEGE

Research Report No. 95-07R

July 1995

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Research Report No. 95-07R

July 1995

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Analysis of the Enrollment Loss
Among First-Time-in-College Students
Attending Miami-Dade Community College

Introduction and Summary

The number of first-time-in-college students was observed to be declining at Miami-Dade Community College (M-DCC) during the 1990's. This trend was observed in two separate research reports produced by the Office of Institutional Research --- the Fall Profile and the High School Draw Report.[1] A loss of first-time students, in general, was observed in the Fall Profile, while a loss of direct-entry high school graduates was observed in the High School Draw Report. The main purpose of this study, therefore, was to determine the sources and reasons for the loss of first-time students at M-DCC.

The data indicated that the enrollment loss during the period Fall 1990 to Fall 1994 was associated with three distinct events: (1) an increase in tuition and fees resulting in a sharp loss of 584 students between Fall 1990 and Fall 1991; (2) the combined effects of tuition and fee increases and Hurricane Andrew resulting in a gradual loss of 361 students over the two-year period Fall 1991 to Fall 1993; and (3) the policy by Florida International University to lower its admission standards, resulting in another sharp loss of 338 students between Fall 1993 and Fall 1994.

---

[1] Brann, H.I. High School Draw: Direct Entry Enrollment of Dade County Public School Graduates by Ethnic Category, Research Report No. 95-04R, March 1995.

Morris, C.M. Fall Student Profile: 1994-95 Closing Fall Enrollment Analysis, Research Report No. 95-06R, March 1995.

Research Questions

Given the observations discussed above, the relevant research questions for determining the sources and reasons for the losses were as follows:

1. Were the losses among first-time students occurring primarily among the direct-entry high school students or the delayed-entry students?

2. Were the losses occurring primarily among the Dade County Public School Graduates, the Dade County Private School Graduates, or Graduates from Non-Dade County Schools?

3. Were there other patterns in the enrollment loss which could provide clues to the reasons for these losses?

Methodology

First-time-in-college students were categorized as direct-entry or delayed-entry. Direct-entry students entered M-DCC within one year of graduating from high school, while delayed-entry students entered M-DCC more than one year after graduating from high school. Within each category, students were further classified as graduating from either a Dade County Public School, a Dade County Private School, or a Non-Dade County School. Data on these categories of students were collected from the IRS40 Files and analyzed.

Results

The Loss Among Direct and Delayed-Entry Students

The data in Table 1 reveal that while the Dade County Public and Private School first-time students contained a higher proportion of direct-entry students (approximately 81% and 89% respectively), the Non-Dade County first-timers contained a higher proportion of delayed-entry students (approximately 68%). The data also reveal a steady decline in the total number of students from all schools from 9,194 in Fall 1990 to 7,911 in Fall 1994 -- a loss of 1,283 students or -14.0%. The loss during the period 1990 to 1994 was almost equally divided between the direct-entry (622 or 48.5%) and the

Table 1
Change in First-Time-in-College Enrollment
By High School Type
Fall Terms 1990 Through 1994

High School Type	Fall Term					Cumulative Change 1990 to 1994	Percent of Total Loss
	1990	1991	1992	1993	1994		
Dade Public	5,069	4,863	5,102	5,182	4,864	-205	16.0%
Direct Entry	4,127	3,927	4,259	4,361	4,034	-93	7.2%
Delayed Entry	942	936	843	821	830	-112	8.7%
% Direct	81.4%	80.8%	83.5%	84.2%	82.9%		
Dade Private	667	641	624	563	484	-183	14.3%
Direct Entry	595	574	582	507	417	-178	13.9%
Delayed Entry	72	67	42	56	67	-5	0.4%
% Direct	89.2%	89.5%	93.3%	90.1%	86.2%		
Non-Dade	3,458	3,106	2,633	2,504	2,563	-895	69.8%
Direct Entry	1,109	1,064	848	724	758	-351	27.4%
Delayed Entry	2,349	2,042	1,785	1,780	1,805	-544	42.4%
% Direct	32.1%	34.3%	32.2%	28.9%	29.6%		
Total	9,194	8,610	8,359	8,249	7,911	-1,283	100.0%
Direct Entry	5,831	5,565	5,689	5,592	5,209	-622	48.5%
Delayed Entry	3,363	3,045	2,670	2,657	2,702	-661	51.5%
% Direct	63.4%	64.6%	68.1%	67.8%	65.8%		

Direct Entry: Entered M-DCC within one year of high school graduation.

Delayed Entry: Entered M-DCC more than one year after high school graduation.

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delayed-entry students (661 or 51.5%). Therefore, the total loss of first-time students from all schools was shared almost equally between the direct-entry and delayed-entry students during the period Fall 1990 to Fall 1994.

Note that the loss in first-time students actually began in Fall 1991. Data for the period Fall 1985 to Fall 1990 revealed a steady increase from 7,765 in 1985 to 9,194 in 1990. However, there was a drop of almost 600 students from Fall 1990 to Fall 1991. This suggests that the reason(s) for these losses may be associated with certain events occurring during the period 1990 to 1991.

The Loss Among School Categories

The data in Table 1 reveal that most of the losses occurred among the Non-Dade High School Graduates. Of the 1,283 students lost between Fall 1990 and Fall 1994, Non-Dade High Schools accounted for 895 or 69.8% of this loss, followed by Dade County Public Schools, 205 or 16.0%, and Dade County Private Schools, 183 or 14.2%. The loss of Non-Dade High School students was significant among both the Direct and the Delayed-Entry first-timers accounting for 351 students or 56.4% of the total Direct-Entry loss, and 544 students or 82.3% of the total Delayed-Entry loss. Again, these losses by school categories all began during the Fall of 1991.

The fact that the Non-Dade High School losses were significantly greater than the Dade County High School losses suggests that fee policies implemented by the State of Florida during the 1990-1991 period had an adverse effect on the enrollment of out-of-county and out-of-state students during the Fall of 1991. There was a general increase in tuition and fees in the State of Florida during this period, with a relatively greater burden placed on non-Florida students. Fees for Florida students increased from $26.75 per credit hour in Fall 1990 to $30.65 per credit hour in Fall 1991 -- an increase of $3.90 or 14.6%, while tuition and fees for non-Florida students increased from $65.75 per credit hour in Fall 1990 to $109.15 per credit hour in Fall 1991 -- an increase of $43.40 or 66%. Was this increase in tuition and fees the main reason for the enrollment loss in Fall 1991 and some of the subsequent years?

Table 2
Non-Dade High School Students
Entering Miami-Dade as First-Time-in-College
By Residency Status
Fall Terms 1990 Through 1994

Residency Status	Fall Term 1990	1991	1992	1993	1994	Change 1990 to 1991	Change 1990 to 1994	Percent Change 1990-1994
Florida	2,581	2,583	2,236	2,059	2,212	2	-369	-14.3%
Out-of-State	371	234	150	172	135	-137	-236	-63.6%
Out-of-Country	506	289	247	273	216	-217	-290	-57.3%
Total	3,458	3,106	2,633	2,504	2,563	-352	-895	-25.9%

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Further analysis of the composition of the Non-Dade students by residence status reveals that Florida residents showed little change, increasing from 2,581 in 1990 to 2,583 in 1991 (Table 2). At the same time, however, Out-of-State residents decreased from 371 in 1990 to 234 in 1991 -- a loss of 137 students, while Out-of-Country residents decreased from 506 in 1990 to 289 in 1991 -- a loss of 217 students. Recall that the total loss of first-time students from 1990 to 1991 was 584 students (Table 1). Therefore, 61% of that loss (354/584) can be attributed to increased tuition and fees for Out-of-State and Out-of-Country students from Non-Dade High Schools alone.

In order to determine which groups of Out-of-State and Out-of-Country students were most affected by the tuition and fee increases, data for these first-time students were generated by immigration status (Table 3). During the period Fall 1990 to Fall 1994, the highest losses among the Out-of-State residents were U.S. Citizens (-117 students or 53.9%), followed by Resident Aliens (-81 students or 72.3%) and Refugees and Asylees (-46 students or 68.7%). Among the Out-of-Country residents, the highest losses came from students on Student Visas (-182 students or -50.4%), followed by Resident Aliens (-70 students or -53.8%) and students on Other Visas (-42 students or -60.0%). Therefore, Resident Aliens, as a group, reported the second highest loss of -151 students.

Analysis of the Loss Pattern

Figure 1 provides a comparison of the enrollment trends among first-time students from Dade and Non-Dade County Schools. A careful analysis of the curve depicting the total enrollment of first-time students reveal three distinct patterns of loss: (i) a sharp loss occurring between Fall 1990 and Fall 1991; (ii) a more gradual loss occurring between Fall 1991 and Fall 1993; and (iii) another sharp loss occurring between Fall 1993 and Fall 1994. Table 4 presents the data by high school type, and summarizes the changes for these three periods.

(i) **Fall 1990 to Fall 1991**

There was a general decline in each category of high school graduates entering M-DCC during the period Fall 1990 to Fall 1991, with the Non-Dade first-time students

Table 3

Out-of-State and Out-of-Country First-Time Students

By Immigration Status

Fall 1990 Through Fall 1994

Immigration Status	Out-of-State Residents					Change 1990-1994		Out-of-Country Residents					Change 1990-1994	
	1990	1991	1992	1993	1994	Absolute	Percent	1990	1991	1992	1993	1994	Absolute	Percent
U.S. Citizens	217	144	99	123	100	-117	-53.9%	6	5	4	5	2	-4	-66.7%
Resident Aliens	112	56	35	43	31	-81	-72.3%	130	72	62	73	60	-70	-53.8%
Refugees/Asylees	67	41	33	45	21	-46	-68.7%	47	19	41	74	30	-17	-36.2%
Student Visas	2	1	3	2	0	-2	-100.0%	361	228	193	189	179	-182	-50.4%
Temporary Permit Residency	2	0	3	0	0	-2	-100.0%	10	0	9	1	1	-9	-90.0%
Other Visas	2	1	0	0	1	-1	-50.0%	70	29	32	28	28	-42	-60.0%
Undocumented Aliens	12	1	4	13	2	-10	-83.3%	25	8	11	13	4	-21	-84.0%
Total	414	244	177	226	155	-259	-62.6%	649	361	352	383	304	-345	-53.2%

Figure 1. All First Time Students From Dade and Non-Dade County Schools
Fall 1990 to Fall 1994

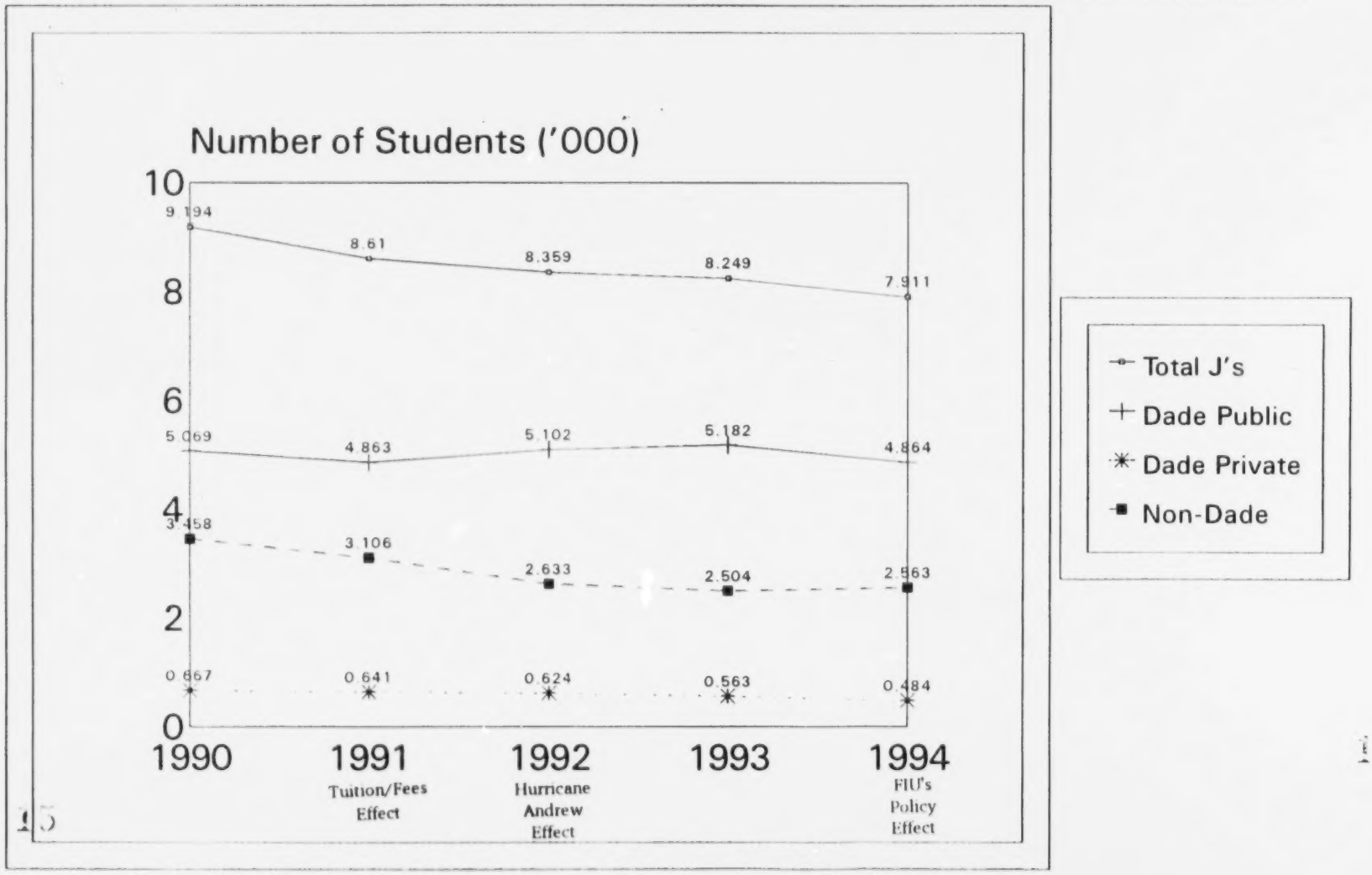

Table 4

Patterns of Change for First-Time-in-College Students

Fall Terms 1990 Through 1994

High School Type	Fall Term					Change 1990 to 1991	Percent of Loss	Change 1991 to 1993	Percent of Loss	Change 1993 to 1994	Percent of Loss
	1990	1991	1992	1993	1994						
Dade Public	5,069	4,863	5,102	5,182	4,864	-206	35.3%	319	--	-318	94.1%
Dade Private	667	641	624	563	484	-26	4.5%	-78	21.6%	-79	23.4%
Non-Dade	3,458	3,106	2,633	2,504	2,563	-352	60.3%	-602	166.8%	59	--
Total	9,194	8,610	8,359	8,249	7,911	-584	100.0%	-361	100.0%	-338	100.0%

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showing the sharpest decline (352 students), followed by Dade County Public School (206 students), and Dade County Private School (26 students). This general decline can be explained by the increase in tuition and fees, which resulted in a relatively sharp overall loss of 584 first-time students from Fall 1990 to 1991.

(ii) Fall 1991 to Fall 1993

During the period Fall 1991 to Fall 1993, first-time students from Non-Dade Schools and Dade County Private Schools continued to decline, while those from Dade County Public Schools **increased.** These trends resulted in an overall loss of 361 students from Fall 1991 to Fall 1993, and reflect the combined effects of tuition and fee increases in Fall 1991, and Hurricane Andrew in Fall 1992. Again, the Non-Dade first-timers decreased even more sharply by 602 students.

Apparently the increase in the number of high school graduates produced by Dade County Public Schools was sufficient to offset the negative impact of tuition and fee increases and Hurricane Andrew. However, not much can be said about the continued decline in Dade County Private School first-timers, since no information is available on the number of graduates produced by these schools.

(iii) Fall 1993 to Fall 1994

The period Fall 1993 to Fall 1994 showed some interesting changes. There was a sudden loss of 318 first-time students from Dade County Public Schools, accompanied by a slight increase of 59 students from Non-Dade Schools. The result was a sharp overall loss of 338 first-time students (See Table 4).

Referring back to Table 1, note that all of the losses of Public School first-time students during the period Fall 1993 to Fall 1994 occurred among the direct-entry students only, while there were increases among the delayed-entry students. This sudden loss of DCPS Direct-Entry students may be associated with the policy by Florida International University (FIU) in 1993 to reduce its admission standards to accept more freshmen. The Miami Herald reported an increase in FIU's freshman class in response to

lower SAT admission standards (Miami Herald, Friday, August 5, 1994, Sec. B). FIU's policy impact is particularly striking on the Kendall Campus which reported its largest absolute and percent loss of direct-entry students since 1990, at which time the Homestead Campus began accepting students.

Enrollment and Credit Response: The Financial Impact

The analysis above revealed that, of the 1,283 first-time students lost between Fall 1990 and Fall 1994, the periods depicting the sharpest losses were Fall 1990 to Fall 1991 (584 students or 45.5% of the loss), and Fall 1993 to Fall 1994 (338 students or 26.3% of the loss). One can conclude, therefore, that the most significant loss occurred in response to the increase in tuition and fees in Fall 1991.

Under normal conditions, we can expect a negative relationship between changes in enrollment and credits and changes in tuition and fees; that is, as tuition/fees increase, total enrollment and total credits are likely to decrease, and vice-versa. This relationship can be illustrated by the Enrollment Curve and the Credit Demand Curve in Figure 2 below:

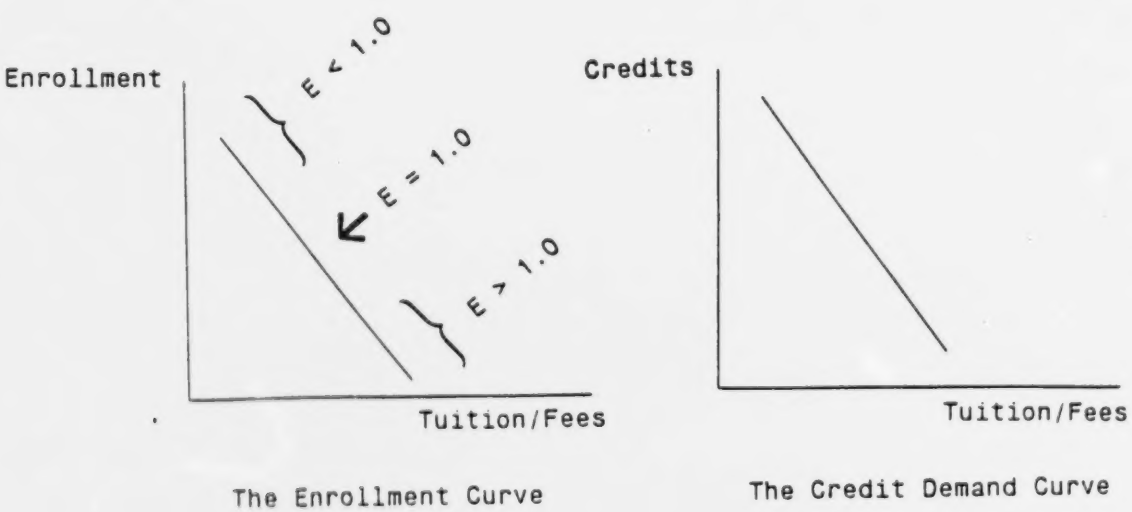

Figure 2. The Enrollment and Credit Demand Curves

An understanding of the concept of elasticity will enable us to analyze and predict the financial impact of tuition and fee changes on revenues from tuition and fees.[2] As tuition and fees change, total enrollments change, and total credits are also likely to change. The elasticity coefficient measures the degree to which enrollments and credits change as tuition and fees change, and is valid for moderate changes in tuition and fees, that is, changes in the order of 10% to 15% maximum. The elasticity coefficient has special significance in predicting changes in revenue, and can be computed as follows:

$$E = \frac{\text{Percent Change in Enrollments or Credits}}{\text{Percent Change in Tuition and/or Fees}}$$

where E represents the Elasticity Coefficient.

The magnitude of the enrollment and credit responses is likely to vary at different levels of tuition/fees. When tuition and fees are relatively high, a given change in tuition/fees is likely to bring about a higher response in enrollment and credits than when tuition/fees are relatively low. The absolute value of E (i.e., E without the negative sign) has special significance for predicting the impact of tuition/fee changes on total revenues from tuition and fees.

An absolute value of E greater than 1.0 ($E > 1.0$) implies that enrollment is very responsive to changes in tuition/fees, within the range of tuition/fees considered (i.e., the coefficient is elastic). Consequently, a 1.0% change in tuition/fees is likely to bring about a greater than 1.0% change in enrollment and credits. This is likely to occur at relatively high levels of tuition/fees.

An absolute value of E less than 1.0 ($E < 1.0$) implies that enrollments and credits are not very responsive to changes in tuition/fees (i.e., the coefficient is inelastic). This is likely to occur at relatively low levels of tuition/fees. Finally, an absolute value of E

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[2]McConnell, C.R. and S.L. Brue. Economics. Mc.Graw Hill 12th Ed. 1993. Chap. 20.

approximately equal to 1.0 (E=1.0) implies that the enrollment or credit response is approximately equal to the tuition/fee response (i.e., the coefficient is unitary elastic). Figure 2 also illustrates how the value of the E coefficient may vary along the enrollment and credit demand curves at different levels of tuition and fees.

The absolute value of the E coefficient can facilitate policy decisions concerning tuition and fees, and also enable us to predict the likely impact of tuition/fee changes on total revenues to be derived from tuition and fees. When E > 1.0 (i.e., elastic), an **increase** in tuition/fees is likely to be accompanied by a **decrease** in total revenues from tuition and fees. On the other hand, when E < 1.0 (i.e., inelastic), an **increase** in tuition/fees is likely to be accompanied by an **increase** in total revenues from tuition and fees. Finally, when E = 1.0 (i.e., unitary elastic), moderate changes in tuition/fees are not likely to affect total revenues from tuition and fees.

(i) Impact on Total Revenues

In order to apply the elasticity concept to predict the financial impact of increased tuition and fees on M-DCC, it will be necessary to estimate the elasticity of demand for credits for Florida residents, Out-of-State residents, and Out-of-Country residents. However, it was pointed out earlier that tuition and fees for non-residents increased by 66.0%. Since the elasticity concept is valid only for moderate changes in the order of 10% to 15% maximum, we can only compute valid elasticities for Florida residents for predictive purposes. However, we can compute and compare the actual changes in total revenues for both Florida residents and non-residents.

Table 5 provides estimates of the enrollment and credit responses to tuition/fee changes for the fee-paying first-time students by residence status. As expected, the enrollment and credit responses were more serious for Out-of-State residents (-41.1% and -40.7% respectively), and Out-of-Country residents (-44.4% and -41.3% respectively), than for Florida residents (-1.4% and -1.3% respectively). The slightly higher percentage losses for Out-of-Country residents compared to Out-of-State residents may be due to the more severe income burden associated with the increased tuition and fees. Moreover, Out-of-

Table 5

Enrollment, Credits and Tuition/Fees Per Credit Hour

For Fee-Paying* First-Time Students by Residency Status

Fall 1990 Through Fall 1991

	Fall 1990			Fall 1991			Absolute Change			Percent Change		
Residence Status	Enrollment	Credits	Tuition/ Fees	Enrollment	Credits	Tuition/ Fees	Enrollment	Credits	Tuition/ Fees	Enrollment	Credits	Tuition/ Fees
Florida Residents	8,080	84,606	$26.75	7,966	83,481	$30.75	-114	-1,125	$4.00	-1.4%	-1.3%	15.0%
Out-of-State Residents	414	45,490	$65.75	244	26,990	$109.15	-170	-18,500	$43.40	-41.1%	-40.7%	66.0%
Out-of-Country Residents	649	76,130	$65.75	361	44,710	$109.15	-288	-31,420	$43.40	-44.4%	-41.3%	66.0%
All Fee-Paying J's	9,143	206,226	-	8,571	155,181	-	-572	-51,045	-	- - -	-	-

*Full-Time Employees and Dependents of M-DCC do not pay fees and are therefore excluded.

A small number of Refugees and Asylees who are not classified in the residence categories above are also excluded.

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Country residents are least likely to qualify for financial aid to offset the tuition and fee increases.

Both the residents and non-residents reported a slightly higher percentage loss in enrollment compared to credits. This suggest that enrollments are slightly more responsive to changes in tuition and fees than credits.

Table 6 provides estimates of the elasticity coefficient for Florida residents, and the changes in total revenue for residents and non-residents. The elasticity coefficients for Florida residents with respect to enrollments and credits were 0.10 and 0.09 respectively (i.e., inelastic). Since the elasticity coefficient with respect to credits was inelastic ($E < 1.0$), we can predict that the increase in tuition/fees was likely to result in an increase in total revenues from credits demanded by Florida residents.

The total revenue data calculated in Table 6 reveal that revenues from Florida resident first-time students increased by $303,830. At the same time, however, total revenues actually decreased from Out-of-State and Out-of-Country residents, resulting in a net increase for all first-time students of only $133,370. These data suggest that, for non-residents, there are opportunities to reduce tuition and fees, increase enrollments, and increase revenues from tuition and fees, and thereby increase the net revenues from tuition and fees for all first-time students.

(ii) Impact on Net Revenues

While the increase in tuition and fees would have resulted in an increase in total revenues from Florida residents and overall first-time students in Fall 1991, the final impact on net revenues for M-DCC is uncertain, and requires further research. Net Revenue is the difference between Total Revenue and Total Cost. The impact on net revenue, therefore, will depend on the impact of decreased enrollment on total cost per credit hour and total State revenues.

Table 6

Average Elasticity Coefficients for Enrollments and Credits, and

Changes in Total Revenue From Credits Demanded

By Fee Paying First-Time Students

Fall 1990 to Fall 1991

	Percent Change			Elasticity		Total Revenue*		Change in Total
Residence Status	Enrollment	Credits	Tuition/ Fees	Enrollment	Credits	1990	1991	Revenues
Florida Residents	-1.4%	-1.3%	+14.6%	0.1	0.09	$2,263,211	$2,567,041	$303,830
Out-of-State	41.1%	-40.7%	+66.0%	Not Valid	Not Valid	$2,990,968	$2,945,959	($45,009)
Out-of-Country	-44.4%	-41.3%	+66.0%	Not Valid	Not Valid	$5,005,548	$4,880,097	($125,451)
All Fee-Paying J's	-6.3%	-24.8%				$10,259,727	$10,393,097	$133,370

*Computed by multiplying the total credits by the tuition/fees per credit hour from Table 5.

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As tuition and fees increase, enrollments decrease, and total credit hours are also likely to decrease. Since cost per credit hour is the quotient of total cost and total credit hours (i.e., total cost/total credit hours), cost per credit hour is likely to increase, unless total costs decreased in the same proportion as the decrease in credit hours. Also, appropriations from the State of Florida are likely to be affected adversely as enrollments decrease. The final impact on net revenues for M-DCC will depend on the relative changes in total revenue from tuition/fees and State Appropriations, and the changes in total cost from reduced credit hours.

Campus Patterns

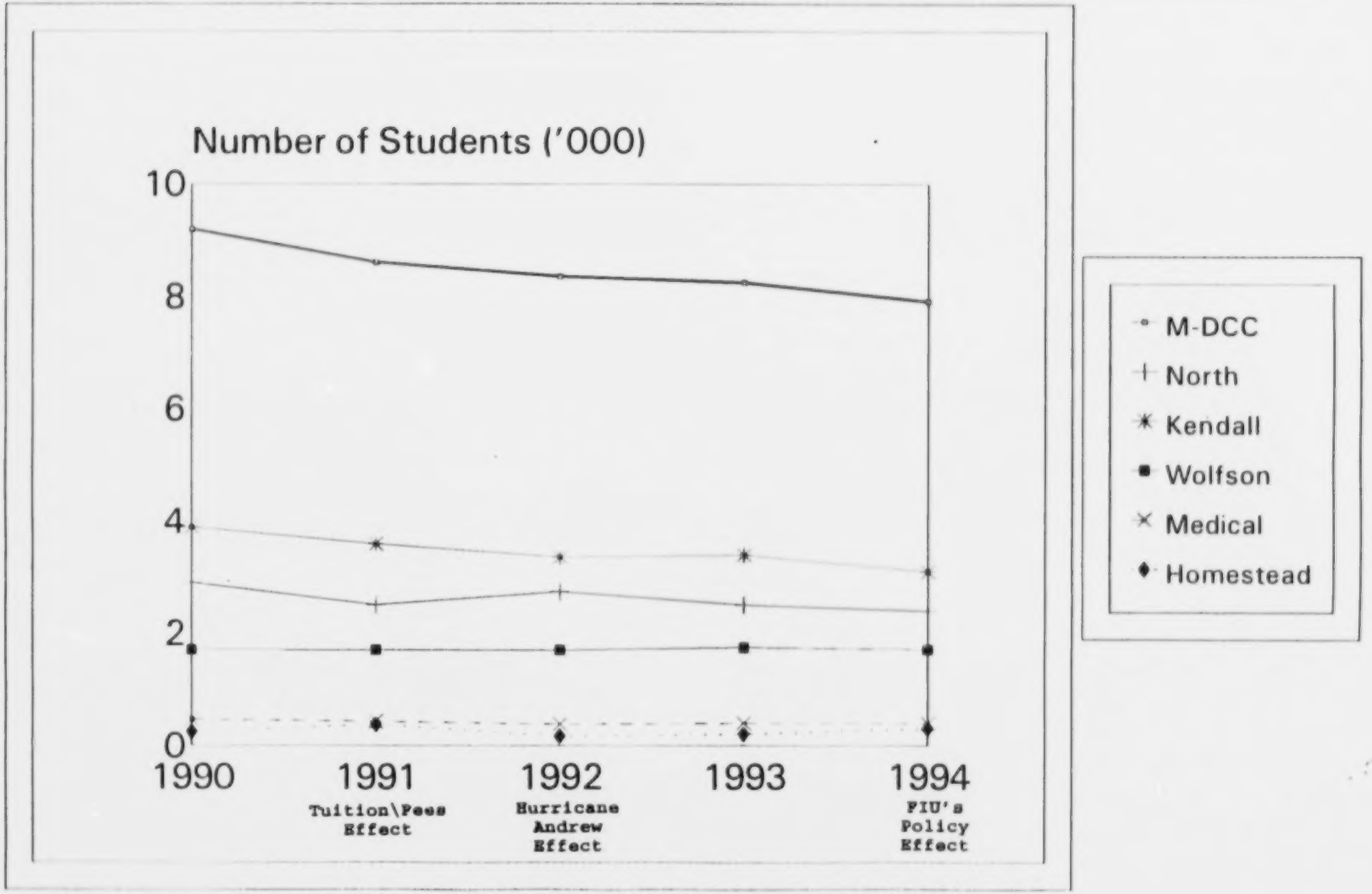
This section examines the loss of first-time-in-college students among campuses, with the view of analyzing the impact of tuition and fee increases, Hurricane Andrew, and FIU's admission policies on enrollment changes at the campus level. Campus data on direct and delayed-entry students by school categories are presented in Appendix Tables 1 through 5.

Campus Loss of First-Time Students From All Schools

Figure 3 provides a comparative picture of the campus loss of first-time students from Dade and Non-Dade County schools. All campuses, except Homestead, were adversely affected by the increase in tuition and fees between Fall 1990 and Fall 1991. North Campus reported the highest loss (-385), followed by Kendall Campus (-290), and Medical Center(-33). The Wolfson Campus reported little change (-4). Homestead's increases in first-time students during this period suggests that the negative impact of tuition and fee increases was offset by the availability of new educational opportunities for the Homestead community.

The period Fall 1991 to Fall 1993, which reflects the combined impact of tuition and fee increases and Hurricane Andrew, had the greatest adverse effect on the Kendall Campus (-201), followed by the Homestead Campus (-171), and the Medical Center Campus (-31). First-time students increased significantly on the North Campus in Fall

Figure 3. Campus Loss of First-Time Students From Dade and Non-Dade County Schools Fall 1990 to Fall 1994



1992 (+237) and were unchanged on the Wolfson Campus, suggesting a migration of students from Kendall and Homestead to North and Wolfson after Hurricane Andrew.

FIU's policy changes in Fall 1993 and Fall 1994 had the greatest adverse effect on the Kendall Campus (-297), followed by the North Campus (-93), and the Wolfson Campus (-39). The Medical Center Campus reported no change during this period, while the Homestead Campus reported an increase of 102 first-time students, suggesting that FIU's policy had no adverse effect on first-time students from the Homestead area.

Campus Loss of First-Time Students From Dade County Public Schools

Figure 4 provides a comparative picture of the campus loss of first-time students from Dade County Public Schools only. All campuses, except Wolfson and Homestead, experienced a loss of students from Dade County Public Schools immediately following the tuition and fee increase of 1990. North Campus reported the greatest loss (-179), followed by Kendall Campus (-105). Medical Center Campus reported little change (-3). Homestead reported an increase of 62 students, while Wolfson reported an increase of 21 students.

While Hurricane Andrew resulted in a decrease in the total number of first-time students attending M-DCC in Fall 1992, Dade County Public School graduates attending M-DCC increased by 239. This increase was the result of an increase in the number of Dade County Public School graduates in Fall 1992. At the campus level, however, decreasing numbers of Dade County Public School graduates were reported at Homestead (-74) and Kendall (-6). As mentioned earlier, a migration of students from the hurricane areas resulted in an increase in Dade County Public School graduates at North (+211), Wolfson (+83), and Medical Center (+13).

FIU's admission policies had an adverse effect on Dade County Public School graduates attending all campuses, except Homestead, in Fall 1994. Hardest hit was Kendall (-219), North (-98), Wolfson (-39), and Medical Center (-15). Homestead reported an increase of 53 Dade County Public School graduates.

Figure 4. Campus Loss of First-Time Students From Dade County Public Schools
Fall 1990 to Fall 1994

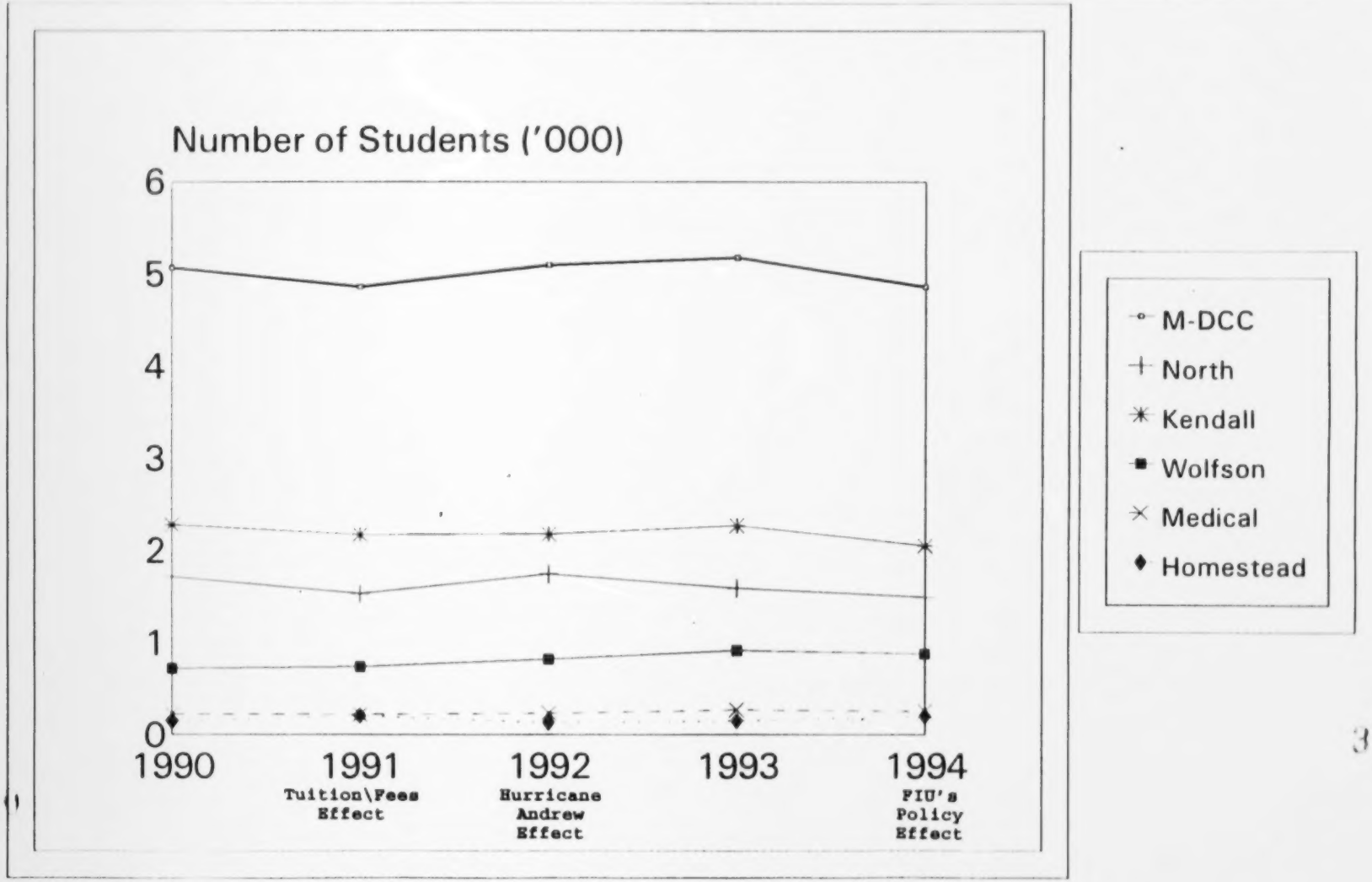
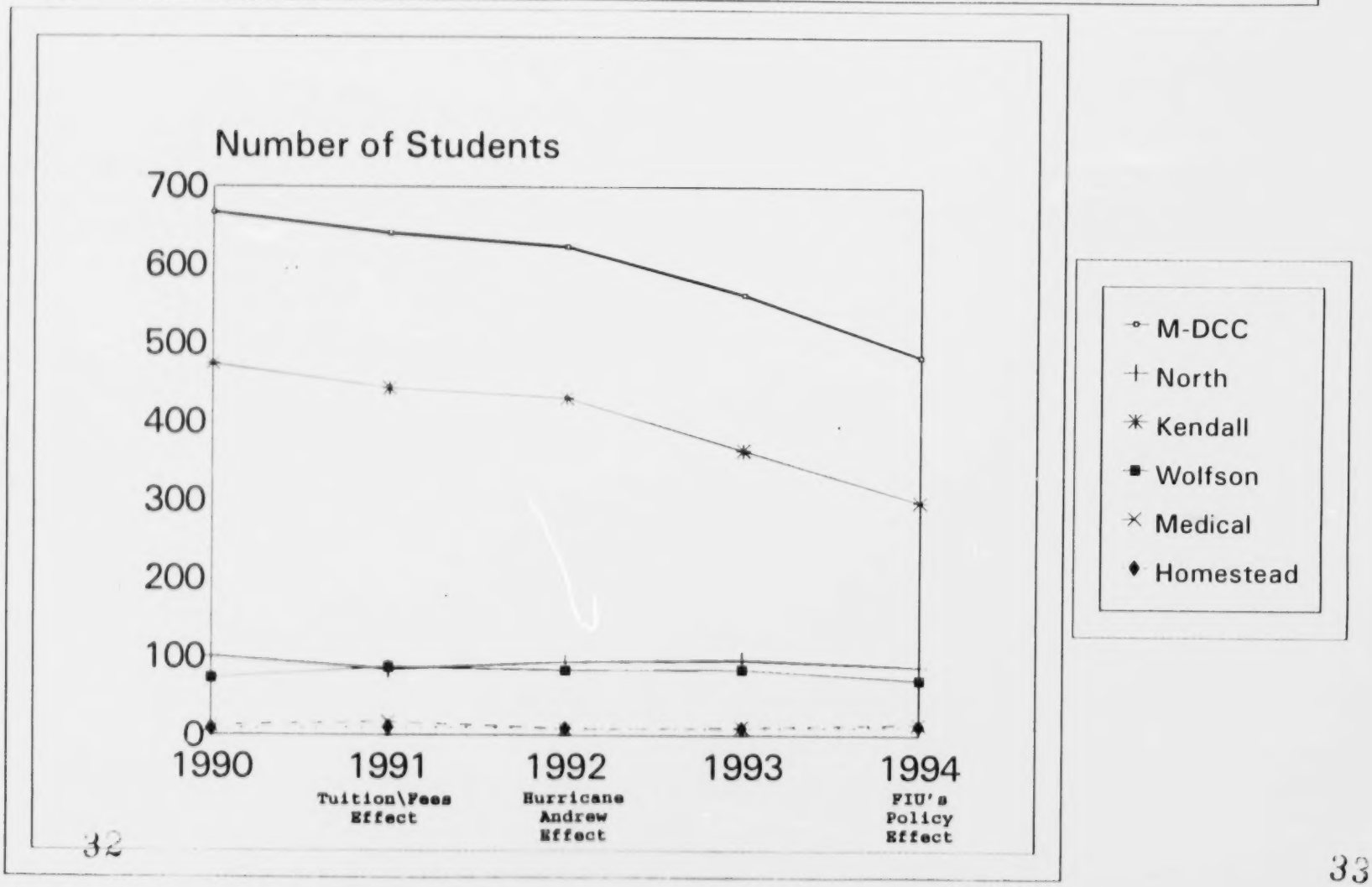


Figure 5. Campus Loss of First-Time Students From Dade County Private Schools Fall 1990 to Fall 1994



Campus Loss of First-Time Students From Dade County Private Schools

Figure 5 provides a comparative picture of the campus loss of first-time students from Dade County Private Schools only. Unlike the overall increase in M-DCC's Public School first-time students in Fall 1992 and Fall 1993 (Figure 4), Private School first-time student enrollment declined continually from Fall 1990 through Fall 1994. Figure 5 reveals that much of the total decrease occurred at the Kendall Campus.

During the period of tuition and fee increases, Fall 1990 to Fall 1991, the loss of Private School students was greatest on the Kendall Campus (-31), followed by North Campus (-16). The other campuses recorded small increases in Private School students as follows: Wolfson (+14), Medical (+5), and Homestead (+2). A similar response was observed for the Public School students attending Wolfson and Homestead.

During the period of Hurricane Andrew, Fall 1992, Kendall reported the greatest loss of Private School first-time students (-12), followed by Medical Center (-9), Wolfson (-4), and Homestead (-1). As observed with the Public School graduates, North Campus recorded an increase in Private School students (+9) during this period. However, while Kendall's Private School first-time students declined sharply in Fall 1993 (-67), following Hurricane Andrew , the other campuses either leveled off or showed slight increases. This suggests that FIU's admission policies began affecting Kendall much earlier than the other campuses.

The period when the impact of FIU's admission policies was observed collegewide, Fall 1994, Kendall reported another sharp loss of Private School students (-66), followed by Wolfson (-13), and North (-8). Medical Center and Homestead reported small increases during this period (+5 and +3 respectively).

Campus Loss of First-Time Students From Non-Dade County Schools

Figure 6 provides a comparative picture of the campus loss of first-time students from schools outside of Dade County. These include schools in other Florida counties, in other States, and in foreign countries. The general pattern of loss of M-DCC students from

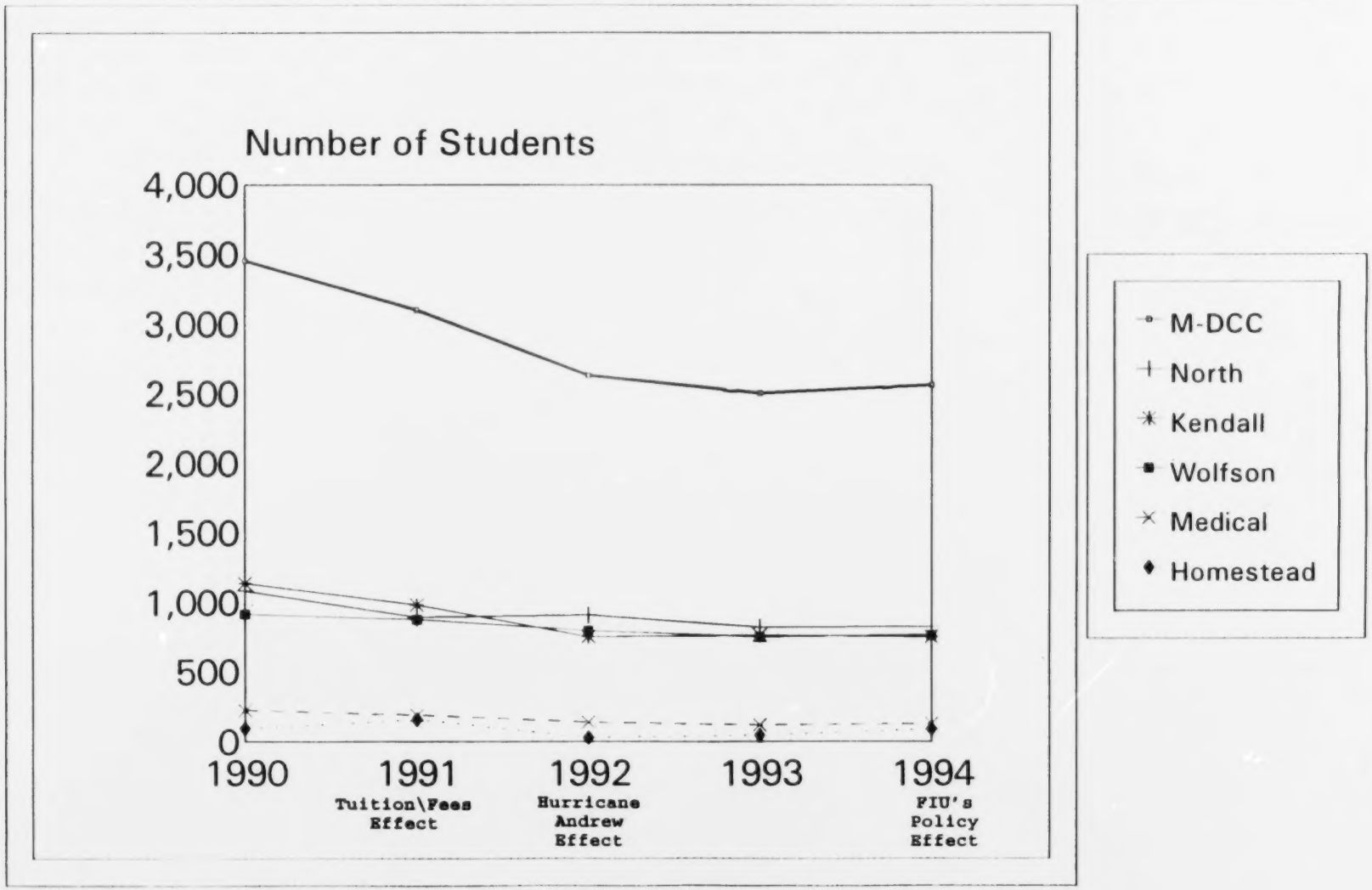
Non-Dade County Schools was replicated by all campuses except North Campus in Fall 1992 and Homestead in Fall 1991.

As reported earlier, tuition and fee increases were more significant for non -Florida residents; consequently, the enrollment response was more severe for many students from Non-Dade County Schools. During the period Fall 1990 to Fall 1991 North Campus recorded the greatest loss (-190), followed by Kendall (-154), Wolfson (-37), and Medical Center (-35). Homestead was the only campus recording an increase in Non-Dade County first-time students (+64) during this period.

An even sharper loss of first-time students from Non-Dade County schools was observed during the period of Hurricane Andrew, from Fall 1991 to Fall 1992. Kendall recorded the greatest loss (-229), followed by Homestead (-130), Wolfson (-79), and Medical Center (-52). North Campus recorded a small increase of 17 students during this period. Campus losses continued through Fall 1993, except for Kendall and Homestead which reported small increases.

The period of FIU's change in admission policy saw little or no negative effect on students from Non-Dade County schools, except for a small loss of 12 students from the Kendall Campus. All other campuses reported increases in Non-Dade County first-time students during this period. This confirms that the impact of FIU's admission policy was essentially local, and was felt most on the Kendall Campus.

Figure 6. Campus Loss of First-Time Students From Non-Dade County Schools
Fall 1990 to Fall 1994



Summary

The loss of 1,283 first-time-in college students observed at Miami-Dade Community College during the period Fall 1990 to Fall 1994 was associated with three distinct events: (1) an increase in tuition and fees resulting in a sharp loss of 584 students between Fall 1990 and Fall 1991; (2) the combined effects of tuition and fee increases and Hurricane Andrew resulting in a gradual loss of 361 students over the two-year period Fall 1991 to Fall 1993; and (3) FIU's policy to lower admission standards, resulting in another sharp loss of 338 students between Fall 1993 and Fall 1994. These events had a differential impact on the enrollment of first-time students.

The enrollment impact of tuition and fee increases in Fall 1991 was more severe for Out-of-Country residents (-44.4%) and Out-of-State residents (-41.1%) than for Florida residents (-1.4%). Among the Out-of-State and Out-of-Country residents, the highest losses were reported for those on Student Visas (-133 students), followed by Resident Aliens (-114 students) and U.S. Citizens (-74 students).

While the increase in tuition and fees resulted in a decrease in enrollment and credits for all categories of first-time students by residence status, total revenues from tuition and fees increased for Florida residents, but decreased for Out-of-State and Out-of-Country residents. Therefore, for Out-of-State and Out-of-Country residents, there are opportunities to increase enrollment and total revenues from tuition and fees, by reducing tuition and fees. This would also result in a more profitable use of any underutilized, fixed resources.

The combined impact of tuition and fee increases in Fall 1991 and Hurricane Andrew in Fall 1992 continued to be more severe for Non-Dade High School students, with no negative effect observed for Dade County Public School students. Apparently, the continued growth of Dade County Public School graduates, and the availability of financial aid served to offset any negative impacts associated with Hurricane Andrew and the lagged effects of tuition and fees increases on Dade County Public School graduates during this period.

The impact of FIU's policy to reduce admission standards in Fall 1993 and 1994 was borne essentially by the Direct-Entry first-time students, and not the Delayed-Entry students. In particular, the Dade County Public School Direct-Entry students were most affected, while there was an increase in Non-Dade Direct-Entry students. This supports the view that local factors were responsible for the sudden decline in Direct-Entry Public School students in Fall 1994, and suggests that M-DCC may want to intensify it's recruitment efforts.

APPENDIX TABLES

Appendix Table 1

North Campus Enrollment of Direct and Delayed-Entry First-Time Students

From Dade and Non-Dade High Schools

Fall 1990 - Fall 1994

Schools	Years					Change 1990-91		Change 1991-93		Change 1993-94	
	1990	1991	1992	1993	1994	Absolute	Percent	Absolute	Percent	Absolute	Percent
First-Time Students											
Dade Public H.S.	1,710	1,531	1,742	1,586	1,488	-179	-10.5%	55	3.6%	-98	-6.2%
Dade Private H.S.	100	84	93	96	88	-16	-16.0%	12	14.3%	-8	-8.3%
Non Dade H.S.	1,084	894	911	822	824	-190	-17.5%	-72	-8.1%	2	0.2%
Total All Schools	2,894	2,509	2,746	2,504	2,400	-385	-13.3%	-5	-0.2%	-104	-4.2%
Direct-Entry											
Dade Public H.S.	1,331	1,177	1,374	1,253	1,171	-154	-11.6%	76	6.5%	-82	-6.5%
Dade Private H.S.	80	73	79	82	72	-7	-8.8%	9	12.3%	-10	-12.2%
Non Dade H.S.	352	296	285	215	219	-56	-15.9%	-81	-27.4%	4	1.9%
Total All Schools	1,763	1,546	1,738	1,550	1,462	-217	-12.3%	4	0.3%	-88	-5.7%
Delayed-Entry											
Dade Public H.S.	379	354	368	333	317	-25	-6.6%	-21	-5.9%	-16	-4.8%
Dade Private H.S.	20	11	14	14	16	-9	-45.0%	3	27.3%	2	14.3%
Non Dade H.S.	732	598	626	607	605	-134	-18.3%	9	1.5%	-2	-0.3%
Total All Schools	1,131	963	1,008	954	938	-168	-14.9%	-9	0.9%	-16	-1.7%

Appendix Table 2

Kendall Campus Enrollment of Direct and Delayed-Entry First-Time Students

From Dade and Non-Dade High Schools

Fall 1990 - Fall 1994

Schools	Years					Change 1990-91		Change 1991-93		Change 1993-94	
	1990	1991	1992	1993	1994	Absolute	Percent	Absolute	Percent	Absolute	Percent
First-Time Students											
Dade Public H.S.	2,274	2,169	2,175	2,266	2,047	-105	-4.6%	97	4.5%	-219	-9.7%
Dade Private H.S.	474	443	431	364	298	-31	-6.5%	-79	-17.8%	-66	-18.1%
Non Dade H.S.	1,137	983	754	764	752	-154	-13.5%	-219	-22.3%	-12	-1.6%
Total All Schools	3,885	3,595	3,360	3,394	3,097	-290	-7.5%	-201	-5.6%	-297	-8.8%
Direct-Entry											
Dade Public H.S.	1,981	1,864	1,944	2,020	1,818	-117	-5.9%	156	8.4%	-202	-10.0%
Dade Private H.S.	443	410	412	348	266	-33	-7.4%	-62	-15.1%	-82	-23.6%
Non Dade H.S.	460	421	316	302	307	-39	-8.5%	-119	-28.3%	5	1.7%
Total All Schools	2,884	2,695	2,672	2,670	2,391	-189	-6.6%	-25	-0.9%	-279	-10.4%
Delayed-Entry											
Dade Public H.S.	293	305	231	246	229	12	4.1%	-59	-19.3%	-17	-6.9%
Dade Private H.S.	31	33	19	16	32	2	6.5%	-17	-51.5%	16	100.0%
Non-Dade H.S.	677	562	438	462	445	-115	-17.0%	-100	-17.8%	-17	-3.7%
Total All Schools	1,001	900	688	724	706	-101	-10.1%	-176	-19.6%	-18	-2.5%

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Appendix Table 3

Wolfson Campus Enrollment of Direct and Delayed-Entry First-Time Students

From Dade and Non-Dade High Schools

Fall 1990 - Fall 1994

Schools	Years					Change 1990-91		Change 1991-93		Change 1993-94	
	1990	1991	1992	1993	1994	Absolute	Percent	Absolute	Percent	Absolute	Percent
First-Time Students											
Dade Public H.S.	718	737	820	913	874	19	2.6%	176	23.9%	-39	-4.3%
Dade Private H.S.	73	87	83	84	71	14	19.2%	-3	-3.4%	-13	-15.5%
Non Dade H.S.	916	879	800	753	766	-37	-4.0%	-126	-14.3%	13	1.7%
Total All Schools	1,707	1,703	1,703	1,750	1,711	-4	-0.2%	47	2.8%	-39	-2.2%
Direct-Entry											
Dade Public H.S.	569	601	676	761	696	32	5.6%	160	26.6%	-65	-8.5%
Dade Private H.S.	60	72	76	67	58	12	20.0%	-5	-6.9%	-9	-13.4%
Non Dade H.S.	245	277	201	160	179	32	13.1%	-117	-42.2%	19	11.9%
Total All Schools	874	950	953	988	933	76	8.7%	38	4.0%	-55	-5.6%
Delayed-Entry											
Dade Public H.S.	149	136	144	152	178	-13	-8.7%	16	11.8%	26	17.1%
Dade Private H.S.	13	15	7	17	13	2	15.4%	2	13.3%	-4	-23.5%
Non Dade H.S.	671	602	599	593	587	-69	-10.3%	9	-1.5%	-6	-1.0%
Total All Schools	833	753	750	762	778	-80	-9.6%	9	1.2%	16	2.1%

Appendix Table 4

Medical Center Campus Enrollment of Direct and Delayed-Entry First-Time Students

From Dade and Non-Dade High Schools

Fall 1990 - Fall 1994

Schools	Years					Change 1990-91		Change 1991-93		Change 1993-94	
	1990	1991	1992	1993	1994	Absolute	Percent	Absolute	Percent	Absolute	Percent
First-Time Students											
Dade Public H.S.	223	220	233	268	253	-3	-1.3%	48	21.8%	-15	-5.6%
Dade Private H.S.	12	17	8	10	15	5	41.7%	-7	-41.2%	5	50.0%
Non Dade H.S.	226	191	139	119	129	-35	-15.5%	-72	-37.7%	10	8.4%
Total All Schools	461	428	380	397	397	-33	-7.2%	-31	-7.2%	0	0.0%
Direct-Entry											
Dade Public H.S.	144	143	157	214	193	-1	0.7%	71	49.7%	-21	-9.8%
Dade Private H.S.	8	11	6	6	12	3	37.5%	-5	-45.5%	6	100.0%
Non Dade H.S.	38	38	39	28	29	0	0.0%	-10	-26.3%	1	3.6%
Total All Schools	190	192	202	248	234	2	1.1%	56	29.2%	-14	-5.6%
Delayed-Entry											
Dade Public H.S.	79	77	76	54	60	-2	-2.5%	-23	-29.9%	6	11.1%
Dade Private H.S.	4	6	2	4	3	2	50.0%	-2	-33.3%	-1	-25.0%
Non Dade H.S.	188	153	100	91	100	-35	-18.6%	-62	-40.5%	9	9.9%
Total All Schools	271	236	178	149	163	-35	-12.9%	-87	-36.9%	14	9.4%

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Appendix Table 5

Homestead Campus Enrollment of Direct and Delayed-Entry First-Time Students From Dade and Non-Dade High Schools

Fall 1990 - Fall 1994

Schools	Years					Change 1990-91		Change 1991-93		Change 1993-94	
	1990	1991	1992	1993	1994	Absolute	Percent	Absolute	Percent	Absolute	Percent
First-Time Students											
Dade Public H.S.	144	206	132	149	202	62	43.1%	-57	-27.7%	53	35.6%
Dade Private H.S.	8	10	9	9	12	2	25.0%	-1	-10.0%	3	33.3%
Non Dade H.S.	95	159	29	46	92	64	67.4%	-113	-71.1%	46	100.0%
Total All Schools	247	375	170	204	306	128	51.8%	-171	-45.6%	102	50.0%
Direct-Entry											
Dade Public H.S.	102	142	108	113	156	40	39.2%	-29	-20.4%	43	38.1%
Dade Private H.S.	4	8	9	4	9	4	100.0%	-4	-50.0%	5	125.0%
Non Dade H.S.	14	32	7	19	24	18	128.6%	-13	-40.6%	5	26.3%
Total All Schools	120	182	124	136	189	62	51.7%	-46	-25.3%	53	39.0%
Delayed-Entry											
Dade Public H.S.	42	64	24	36	46	22	52.4%	-28	-43.8%	10	27.8%
Dade Private H.S.	4	2	0	5	3	-2	-50.0%	3	150.0%	-2	-40.0%
Non Dade H.S.	81	127	22	27	68	46	56.8%	-100	-78.7%	41	151.9%
Total All Schools	127	193	46	68	117	66	52.0%	-125	-64.8%	49	72.1%

Miami-Dade Community College

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